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D7 [0107] Analysis of the N-terminal portion of the sequence shows the presence of characteristics for addressing of the protein to an organelle (mitochondrion or chloroplast). Unlike the other isoforms described above, the SAT2 gene is complex and has several introns. Comparing SAT2 sequences with its homologues from *A. thaliana*, from plants and from other organisms, leads to the assumption of a prokaryotic origin (Figure 10). Moreover, analysis of the N-terminal sequence using the chloroP program [www.cbs.dtu.dk/services/chlorP/], indicates a high probability of the presence of a chloroplast-type transit peptide.

In the claims:

D1 5. (twice amended) Method according to claim 4, characterized in that the serine acetyltransferase is a plant serine acetyltransferase, a bacterial serine acetyltransferase, a plant serine acetyltransferase rendered cysteine-insensitive by mutagenesis or a bacterial serine acetyltransferase rendered cysteine-insensitive by mutagenesis.

Cancel claim 12 without prejudice.

D2 13. (amended) Method according to claim 60, characterized in that the serine acetyltransferase is overexpressed in the cytoplasm in the form of a mitochondrial signal peptide/ serine acetyltransferase fusion protein, the mature functional serine acetyltransferase being released inside mitochondria.

~~52.7~~  
D3 20. (twice amended) Method according to claim 19, characterized in that the fusion protein is the naturally expressed fusion protein.

D4 23. (twice amended) Method according to claim 19, characterized in that the serine acetyltransferase and the transit peptide of the fusion protein are from different proteins.

D5 60. (amended) A method for increasing the production of cysteine, glutathione, methionine or sulfur-containing derivatives of methionine by plant cells and plants, said method comprising overexpressing serine acetyltransferase in plant cells transformed with a nucleic acid sequence encoding a serine acetyltransferase or in plants containing said plant cells, whereby overexpression of serine acetyltransferase results in the increased production of cysteine, methionine, glutathione, methionine or sulfur-containing derivatives of methionine.

⌈ Please add the following new claims: ⌋

D4 ~~SAT3~~ 72. (new) A method for increasing the production of cysteine, glutathione, methionine or sulfur-containing derivatives of methionine by plant cells and plants, said method comprising  
transforming plant cells with a nucleotide sequence encoding a serine acetyltransferase, and  
expressing said nucleotide sequence encoding a serine acetyltransferase in said plant cells or in a plant containing said plant cells, whereby expression of said nucleic acid sequence results in the increased production of cysteine, methionine, glutathione, methionine or sulfur-containing derivatives of methionine in said plants cells or plant.

73. The method of claim 72 wherein said nucleic acid sequence encodes SAT3.